Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	0	((file\$1 near allocat\$) same weight\$1).clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/02/20 13:29
L2	0	((file\$1 near allocat\$) same weight\$1).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/02/20 13:07
L3	0	((file\$1 near allocat\$) same weight\$1).ti.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/02/20 13:07
L4	20	((file\$1 near allocat\$) same weight\$1)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/02/20 13:22
L5	5101	(allocation! or allocating!) near3 space!	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/02/20 13:24
L6	1402369	(storage adj2 device\$1) or disk\$1 or tape or "hard disk"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/02/20 13:25
L7	3115	5 and 6	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/02/20 13:25
L8	410	7 and weight\$1	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/02/20 13:26
L9	2	4 and 8	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON ·	2005/02/20 13:28
L10	25008	"707"/\$.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/02/20 13:28

L11	73	8 and 10	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/02/20 13:28
L12	71	(file\$1 near allocat\$) and 8	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/02/20 13:30
L13	55	12 and (manager or managing)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/02/20 13:30
L14	21	10 and 13	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2005/02/20 13:30

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#### **Results Key:**

JNL = Journal or Magazine CNF = Conference STD = Standard

## 1 Techniques for increasing the stream capacity of a high-performance multimedia server

Jadav, D.; Choudhary, A.N.; Berra, P.B.;

Knowledge and Data Engineering, IEEE Transactions on , Volume: 11 , Issue: 2 , March-

**April 1999** 

Pages: 284 - 302

#### **IEEE JNL**

2 Performance analysis of disk allocation method using error-correcting codes Fujiwara, T.; Ito, M.; Kasami, T.; Kataoka, M.; Okui, J.;

Information Theory, IEEE Transactions on , Volume: 37 , Issue: 2 , March 1991

Pages:379 - 384

#### IEEE JNL



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# Performance analysis of disk allocation method using error-correcting codes

Fujiwara, T. Ito, M. Kasami, T. Kataoka, M. Okui, J. Dept. of Inf. & Comput. Sci., Osaka Univ., Japan;

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Inspec Accession Number: 3911563

#### Abstract:

The problem of distributing a Cartesian product **file** on multiple disks to maximize the parallelism for partial match queries is addressed. C. Faloutsos et al. (1989) have proposed an **allocation** method for Cartesian product **files** on multiple disks by using linear error-correcting codes. The performance of the **allocation** method is analyzed. Some conditions under which the **allocation** method is strictly optimal for queries with a given number of unspecified attributes are presented. A necessary and sufficient condition for a linear code to give a strictly optimal **allocation** method is discussed. Formulas for the average response time on queries with w unspecified attributes, denoted  $T_{\rm w}$ , in terms of the **weight** distribution of the code or its dual code, and formulas for the average response time Ton all queries, are given. Several examples whose average response times  $T_{\rm w}$  or T are close to theoretical lower bounds are presented

#### **Index Terms:**

error correction codes **storage** management Cartesian product **file** average response time disk **allocation** method dual code error-correcting codes linear code linear codes multiple disks optimal **allocation** method partial match gueries performance analysis

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### Techniques for increasing the stream capacity of a highperformance multimedia server

Jadav, D. Choudhary, A.N. Berra, P.B.

IBM Almaden Res. Center, San Jose, CA, USA;

This paper appears in: Knowledge and Data Engineering, IEEE Transactions on

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#### **Abstract:**

High-performance servers and high-speed networks will form the backbone of the infrastructure required for distributed multimedia information systems. A server for an interactive distributed multimedia system may require thousands of gigabytes of storage space and a high I/O bandwidth. In order to maximize the system utilization, and thus minimize the cost, it is essential that the load be balanced among each of the server's components, viz. the disks, the interconnection network and the scheduler. Many algorithms for maximizing retrieval capacity from the storage system have been proposed in the literature. This paper presents techniques for improving the server capacity by assigning media requests to the nodes of a server so as to balance the load on the interconnection network and the scheduling nodes. Five policies for request assignment-round-robin (RR), minimum link allocation (MLA), minimum contention allocation (MCA), weighted minimum link allocation (WMLA) and weighted minimum contention allocation (WMCA)-are developed. The performance of these policies on a server model developed by the authors (1995) is presented. We also consider the issue of file replication, and develop two schemes for storing the replicas: the parent group-based round-robin placement (PGBRRP) scheme, and the group-wide round-robin placement (GWRRP) scheme. The performance of the request assignment policies in the presence of file replication is presented

#### **Index Terms:**

capacity management (computers) interactive systems multimedia databases multimedia servers multiprocessor interconnection networks optimisation performance evaluation replicated databases resource allocation scheduling I/O bandwidth cost minimization disks distributed multimedia information systems infrastructure dynamic resource allocation file replication group-wide round-robin placement high-performance multimedia server high-speed networks interactive distributed multimedia system interconnection network load balancing media request assignment policies media-on-demand server parallel input/output parent group-based round-robin placement performance real-time data retrieval replica storage schemes retrieval capacity maximization scheduler scheduling nodes server capacity storage space stream capacity system utilization maximization weighted minimum contention allocation weighted minimum link allocation

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